Agriculture & Forestry Technical Work Group Teleconference Meeting #1

September 1, 2005

ADEQ Arizona Department of Environmental Quality

CCS CENTER FOR CLIMATE STRATEGIES

Today's Agenda

- Call to order
- Introduction of Technical Work Group members
- Review of Technical Work Group organization and logistics
- Review of Open Meeting Law Requirements
- Review and discussion of the draft Arizona greenhouse gas emissions inventory and forecast for Agriculture & Forestry
- Review and discussion of list of potential state actions
- Discussion of next steps toward identification of priorities for analysis of options
- Call to the public
- Proposed agenda items for next meeting
- Announcements

Agenda Items 1-4

- Call to Order
- Introduction of Technical Work Group Members
- Review of Technical Work Group Organization and Logistics
- Review of Open Meeting Law Requirements

AF TWG Members & Other Attendees

AF TWG: Facilitators – Steve Roe & Tom Peterson, CCS

Bas Aja: Arizona Beef	Marnie Greenbie: ADEQ
Bob Broscheid: AZ Game & Fish	James Henness: Farmer
Sam Campana: Audobon Society	George Koch: Northern AZ University
Marcia Colquitt: AZ Dept. of Ag.	Kirk Rowdabaugh: AZ State Land Dept. – Forestry Division
Jim Crosswhite: EC Bar Ranch	Robert Shuler: Ryley Carlock & Applewhite
Dannion Cunning: City of Lake Havasu	Joe Sigg: AZ Farm Bureau
Paul Declay: White Mountain Apache Tribe	Karen Smith: AZ Dept. of Water Resources
Don Farmer: AZ Wildlife Federation	Tom Swetnam: University of AZ
Steve Gatewood: Greater Flagstaff Forest Partners	

AF TWG Members & Other Attendees (continued)

Other Attendees:

Kurt Maurer: ADEQ,

Members of the Public,

Others?

Agenda Item 5

- Review and discussion of the draft Arizona greenhouse gas emissions inventory and forecast for our sector (excluding black carbon)

Arizona GHG Emissions

- Inventory and Reference Case Projections
  - Initial analysis by CCS for further discussion and revision
    - Inventory of historical emissions from 1990 to most recent data year (2000-2004, depending on sector)
    - Projection of emissions to 2020

Coverage

- Six gases per USEPA and UNFCCC guidelines
  - Carbon Dioxide (CO2), Methane (CH4), Nitrous Oxide (N2O, Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulfur Hexafluoride (SF6)
  - Black Carbon considered separately
- All major emitting sectors
  - Electricity
  - Residential, Commercial, Industrial Fuel Use
  - Transportation
  - Agriculture and Forestry
  - Industrial Processes and Other Sources

Inventory Approach

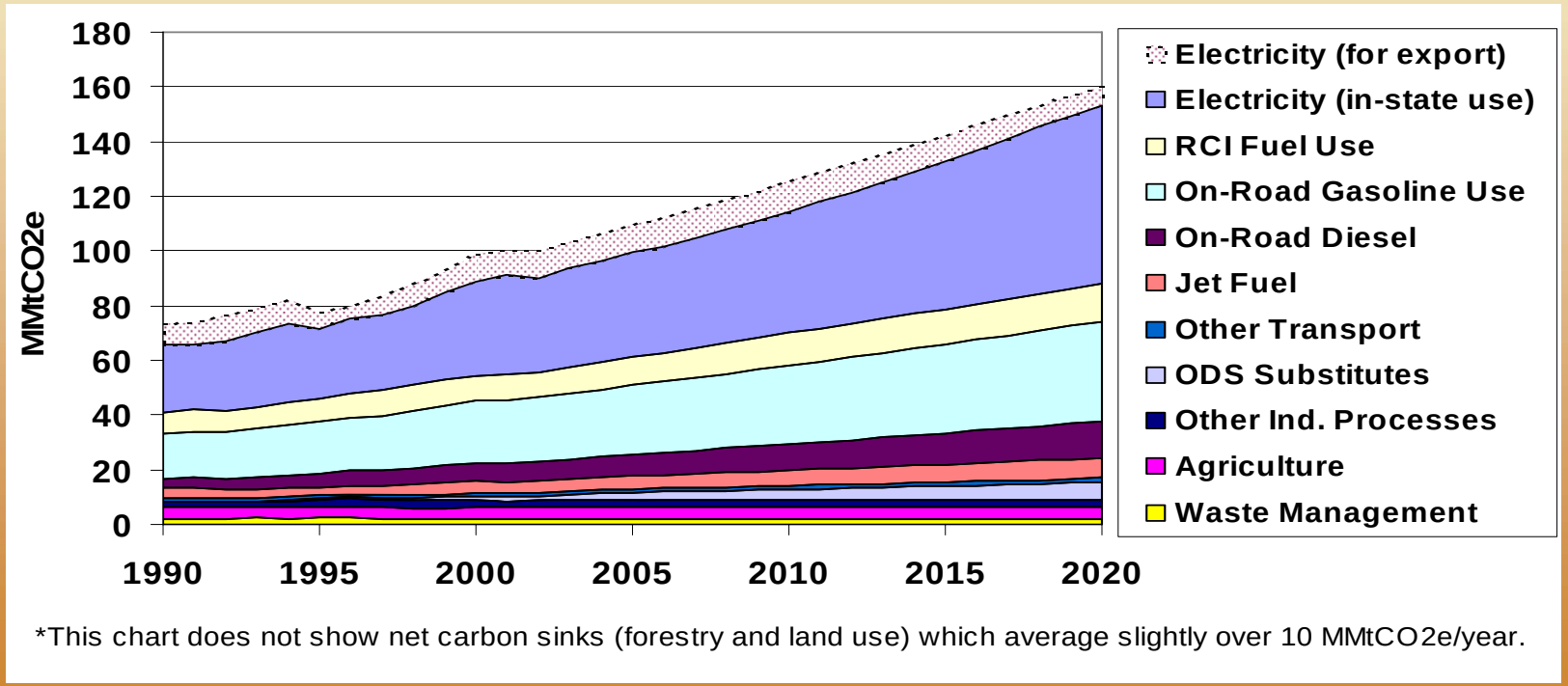
- Standard US EPA and UN methodologies, guidelines, and tools
- Emphasis on transparency, consistency, and significance
- Preference for Arizona or regional data, where available
- Consumption and production-basis emissions from electricity generation
  - Very simplified approach used for initial analysis

Projection Approach

- Reference case assumes no major changes from business-as-usual
  - Includes approved policies and actions to the extent possible (e.g. Environmental Portfolio Standard)
- Growth assumptions from existing sources
  - Electricity demand growth from AZ Corporation Commission
  - Population and economic forecasts from AZ Department of Economic Security
  - Several assumptions from US DOE's Annual Energy Outlook 2005

Arizona GHG Emissions

- 1990-2020

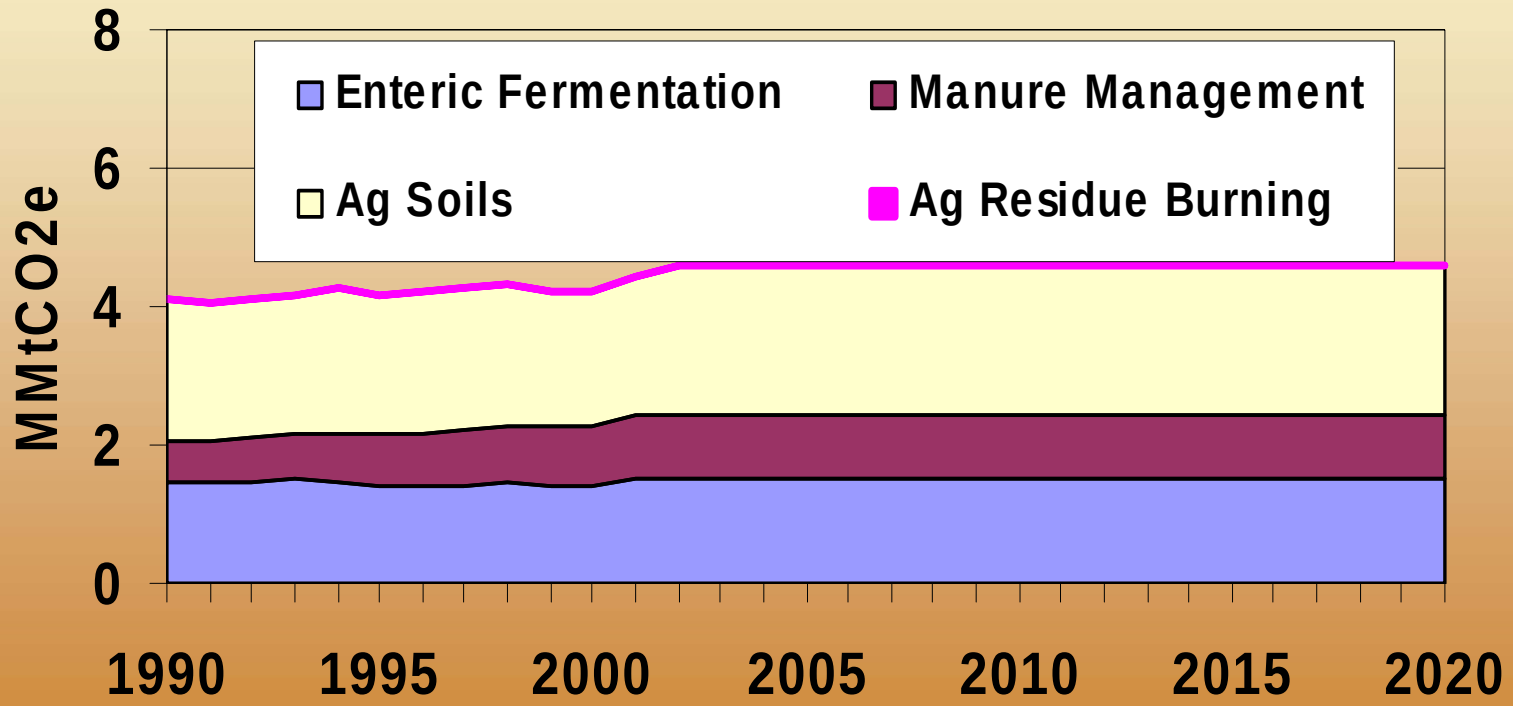


*This chart does not show net carbon sinks (forestry and land use) which average slightly over 10 MMtCO2e/year.

AF Work Group Issues

- Forestry
  - Clarification of USFS numbers,
  - Incorporation of new data,
  - Rangelands,
  - Accounting for wood products use/disposal,
  - Other Issues.
- Agriculture
  - Manure management practices,
  - Cultivation practices,
  - Other Issues.
- Both Sectors
  - Land use change,
  - Cross-cutting issues (e.g. fossil fuel use, waste management).

Agriculture



Forestry

- Forest carbon stock changes
  - 1987-2002 average annual stock changes
  - Carbon only

Live and dead-standing trees and understory	2.5
Forest floor and coarse woody debris	-3.8
Soils	-5.5
Wood products and landfills	0.0
Total	**-6.7**

Agriculture & Forestry

- Data Sources
  - Forestry: Forest Inventory Analysis (FIA) data collected by states and USFS
  - Agriculture: USDA data collected by states and USDA
- Methods
  - Forestry: USFS FORCARB2 carbon stock change model
  - Agriculture: GHG conversions using EPA methods

Agriculture & Forestry

- Key Assumptions and Uncertainties
  - USFS “forest” definition changes in Southwest over period from 10% to 5% minimum forest cover required per acre
  - Projections of future stock changes must address many changes
  - Rangeland effects need clarification
  - Land cover/land use change and harvested wood products require further analysis
  - Manure management practices (EPA defaults used)

Agenda Item 6

- Review and discussion of list of potential state actions
- (See matrix of potential actions)

Decision Criteria

- GHG reduction potential,
- Cost effectiveness ($/MMt$CO_2$e),
- Co-benefits and ancillary impacts (e.g. reduction of other pollutants, economic impacts),
- Feasibility issues.

Agriculture & Forestry Options

- Agriculture
  - Production of Fuels and Electricity,
  - Fertilizer and Manure Management,
  - Soil Carbon Management,
  - Land Use Change,
  - Farming Practices.

Agriculture & Forestry Options (cont.)

- Forestry
  - Biomass Protection and Management,
  - Wood Products and Waste,
  - Energy Production.

Review Initial List of Options (“AF Strategy Matrix”)

Agenda Item 7

- Discussion of next steps toward identification of priorities for analysis of options

Agenda Item 8

- Call to the public

Agenda Item 9

- Proposed agenda items for next meeting
  - Continued development of priorities for analysis?
  - Continued discussion of inventory and reference case?

Agenda Item 10

- Announcements